Electron Dam
Rock Dam Structure Status Report and Listed Species Take
5/17/2022

We went to the site on May 11, 2022, and found the rock dam has changed, as the Tribe predicted and similar, if not worse than the previous year, due to the seasonal flows. It is unfortunate that we found the potential for fish passage even WORSE than early 2021.

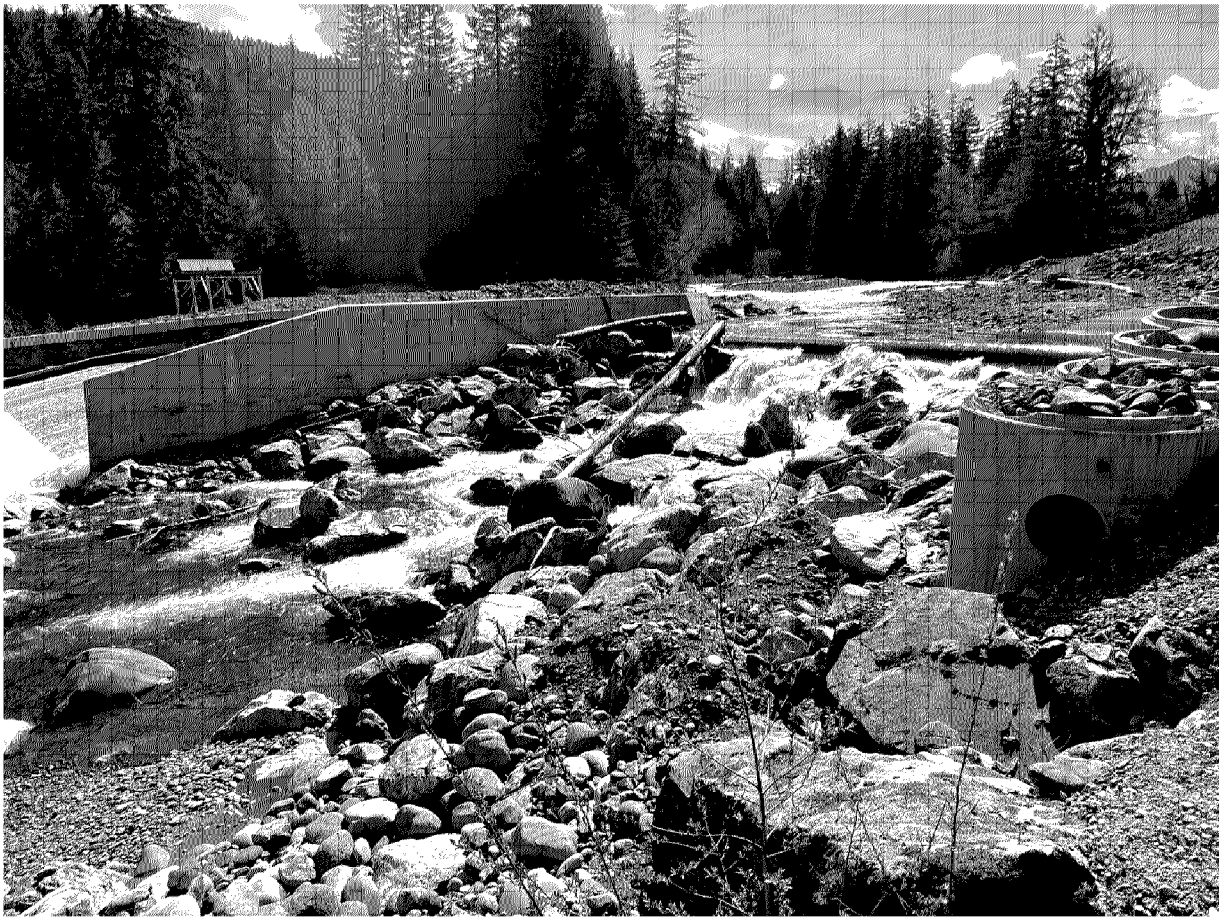
The area of large rock that was added downstream of the sheet pile dam has been stripped of all fine gravel, cobble and small rubble as predicted. What remains is highly angular boulders, with large voids that create an abrupt obstruction and provide little or no pool features that would allow for fish to stage a jump or to otherwise make successful passage upstream. While staging for successful passage is likely unavailable under current structure conditions, the flow over the rock dam continues to draw fish up into the structure to the point of the sheet pile, and they remain there prohibited from entering the fish ladder but also likely restricted from moving upstream. Once they are exhausted enough to potentially fall back, it is highly unlikely they will move laterally successfully to the fish ladder given the conditions downstream of the rock dam and turbulent conditions below the wood apron. Even if a fish could clear the required 6' vertical clearance at the steel sheet pile of the rock dam, while not impossible, is far from ideal much less desirable for a facility whose fish passage systems have been repeatedly called into question.

The rock dam feature now works in concert with the sheet pile flow over the wooden dam apron. This collective stream of water will act to confuse, disorient and exhaust all species in their quest to fish upstream passage.

The fact that so much flow goes over the sheetpile dam contributes to the attraction of upstream migrating fish. This very effectively leads to their exhaustion, injury and in all likelihood reduces their chances at reproducing successfully.

These feature are antagonistic to the collective efforts of many toward stock recovery and naturally reproducing populations of fish in the upper-Puyallup River.

See attached photo



The rock dam itself is a barrier to fish passage, the increased height of the steel structure, which was not installed as permitted to begin with, now completely blocks fish passage, but the rock itself has once again moved during winter flows. So, once again, fish are drawn up river left with nowhere to go and will be stranded in the offset portion of the structure.

In addition to the continued problem on the left bank, now the flow over the wood crib structure has created a high velocity and turbulent condition which is naturally more attractant to fish and is highly likely encumbering fish from finding the fishway entrance. This makes it VERY unlikely fish will find the fish ladder even on the right bank. Based on our most current steelhead surveys of the mainstem bypass reach (≈6.2 miles), and all surveyed reaches above Electron (≈10 miles), only 8% of estimated adult steelhead successfully migrated upstream of the Electron Dam. During the 2021 steelhead run, an estimated 21% of adult steelhead successfully migrated upstream of the Electron Dam.